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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/370,360	08/09/1999	KAMILO FEHER	A-66732-2/RM	8009

7590

04/22/2002

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EXAMINER

TRAN, KHANH C

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 04/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/370,360

Applicant(s)

FEHER, KAMILO

Examiner

Khanh Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 is/are allowed.
- 6) ☒ Claim(s) 1-4, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 4 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language.

Regarding to claims 1, 4 and 9, the claimed language doesn't point out distinctly whether both in-phase and quadrature-phase baseband signals are Time Constrained Signal (TCS) response filtered or both in-phase and quadrature-phase baseband signals are Long Response (LR) filtered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vannatta et al. U.S. Patent 5,930,299.

Regarding to claim 1, for the purpose of art rejection since claim 1 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite, assuming that either both in-phase and quadrature-phase baseband signals having Time Constrained

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Signal (TCS) Response filtered or Long Response (LR) filtered, Vannatta et al.

discloses in figure 1 a prior art $\pi/4$ DQPSK digital modulator including:

I/Q digital pulses with $\pm \pi/4$ inputting to a baseband signal processing section comprising of FIR pulse shaping filters 164, 165, digital-to-analog converters (DAC) and reconstruction filters 168, 169. In-phase and quadrature-phase baseband signals are generated at the output of said baseband signal processing section. In the case of TCS response, the baseband signal processing section processes digital data and hence is limited by the memory length of the processors in said baseband signal processing section. Therefore digital data on both in-phase and quadrature-phase baseband signals are TCS response filtered as defined in the specification of the claimed application. In the case of Long Response (LR) filter, the filters of the baseband signal processing section could be easily implemented by conventional filter synthesis as disclosed and defined in the specification of the claimed application. Therefore digital data on both in-phase and quadrature-phase baseband signals are LR filtered.

a quadrature modulator 190 modulates said Time Constrained Signal (TCS) and Long Response filtered in-phase and quadrature-phase baseband signals to generate a quadrature modulated output signal for transmission. Although, Vannatta et al. doesn't explicitly states said digital modulator system having variable bit rate input, the digital modulator system can inherently accommodate variable data rate, e.g. modem.

Regarding to claims 2, 3 and 9, for the purpose of art rejection since claim 9 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite, assuming that either both in-phase and quadrature-phase baseband signals having Time

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Constrained Signal (TCS) Response filtered or Long Response (LR) filtered, Vannatta et al. discusses a variable bit rate system in claim 1. Vannatta et al. further discloses inputs I & Q for inputting binary signals to said filters 164, 165, an RF power amplifier 195 to provide said quadrature modulated signal to the transmission medium, a duplexer 197 to provide connection of said quadrature modulated signal to a demodulator 116, a demodulator 116 for signal demodulation.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isaksson et al. U.S. Patent 5,812,523 in view of Kato et al. U.S. Patent 4,567,602.

Regarding claim 8, Isaksson et al. discloses in figure 1 an Orthogonal Frequency Division Multiplexed (OFDM) receiver having received complex time domain baseband signals $I(t)$ and $Q(t)$ from an incoming OFDM signal. Said baseband signals $I(t)$ and $Q(t)$ are digitized by an A/D converter. The digital signal is read into a synchronization block in the time domain before subject to a fast Fourier Transform (FFT) operation by a FFT processor. Deriving the frame clock and compensating the frequency error in the OFDM signal are performed by cross-correlation between the stream of symbols. However, Isaksson et al. doesn't explicitly point out the receiver produces cross-correlated filtered in-phase and quadrature-phase baseband signals.

Kato et al. discloses in figure 2 a cross-correlated baseband signal processor for generating in-phase and quadrature phase shifted NRZ baseband signals. Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention to modify Isaksson et al.'s OFDM receiver so that cross-correlated in-phase and

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quadrature phase shifted baseband signals are generated to compensate for the frequency error in said OFDM signal.

Allowable Subject Matter

4. Claims 5-7 are allowed.

Conclusion

5. The prior art made of record and not relied upon could be considered pertinent to applicant's disclosure:

Park et al. U.S. Patent 6,373,902 B1 discloses a device and method for linearizing transmitter in digital communication system.

Jones et al. U.S. Patent 5,920,808 discloses a method and apparatus for reducing key-up distortion by pre-heating transistors.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Monday - Friday from 08:00 AM - 04:00 PM.

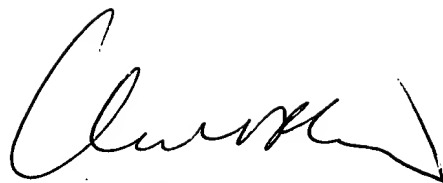
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

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KCT
April 18, 2002



CHI PHAM

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4/19/02